

**What is claimed is:**

1. A radio transmitting device comprising radio transmitter circuitry and processing means for processing digital signals to produce a modulating signal for the radio transmitter circuitry, wherein the processing means is configured to implement a protocol stack having a physical layer and a medium access control layer, above the physical layer, providing a plurality of transport channels which are combined and then interleaved to produce said modulating signal.
2. A radio transmitting device according to claim 1, wherein the device is adapted for TDMA communication and said interleaving is performed on blocks of data constituting a plurality of TDMA bursts.
3. A radio transmitting device according to claim 1, wherein the processing means performs interleaving of said transport channels before they are combined.